

## Are antibiotics effective for adults and children with acute sore throats?

Del Mar CB, Glasziou PP, Spinks AB. Antibiotics for sore throat. (Cochrane Review, latest version, September 16, 1999). In: *Cochrane Library*. Oxford: Update Software.

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**Competing interests:**

None declared

**Funding:** No external  
funding

Published previously in  
*Evidence-Based Nursing*  
2000;3:78

### DATA SOURCES

Studies were identified by searching MEDLINE with the terms “pharyngitis,” “sore throat,” and “tonsillitis”; the Cochrane Library; the Cochrane Acute Respiratory Infections Group trials register; and bibliographies of included studies. Inclusion dates of the studies were 1945 through 1999.

### STUDY SELECTION

Controlled trials were selected if they compared the use of antibiotics with that of placebo, if the patients had symptoms of acute sore throat and were in primary care settings, and if outcomes included the incidence of acute rheumatic fever within 2 months or of acute glomerulonephritis within 1 month; acute otitis media; acute sinusitis; quinsy (peritonsillar abscess); or symptoms of throat soreness, headache, or fever.

### DATA EXTRACTION

Data were extracted or sought from the authors of trials on study quality; publication date; patient characteristics; and antibiotic therapy, including duration, outcomes, symptom resolution, and adverse effects.

### MAIN RESULTS AND CONCLUSION

Twenty-two studies (10,484 cases of sore throat) met the inclusion criteria. Most were done in the 1950s, although 4 were published recently (1996 through 1999). Analyses of all antibiotic use together and only trials of penicillin showed reductions in the incidence of acute rheumatic fever; antibiotics also reduced the incidence of acute otitis media, quinsy, and symptoms of fever, throat soreness, and headache at day 3 (table). Antibiotic use did not prevent acute glomerulonephritis within 2 months or sinusitis within 14 days. Subgroup analyses showed that these results were not changed when blinding, use of antipyretics, confirmed streptococcal infections, or age of the patients were analyzed. Data were insufficient to report on adverse effects.

In patients with acute sore throat, antibiotics are effective for reducing symptoms of throat soreness, fever, and headache at day 3 and the incidence of rheumatic fever, otitis media, and quinsy.

Table Antibiotic use versus placebo for patients with sore throat in primary care settings (fixed-effects model)\*

Outcomes	Number of studies	Weighted event rates, % Antibiotics	Weighted event rates, % Placebo	RRR (95% CI), %	NNT (CI)
Rheumatic fever by 2 mo	11	1.4	1.9	69 (53-80)	186 (117-445)
Otitis media by 14 days	10	1.5	2.2	71 (47-84)	144 (75-1,923)
Quinsy by 2 mo	7	1.5	2.4	81 (48-93)	113 (58-2,541)
Fever at day 3	6	13.3	19.8	37 (19-51)	16 (10-35)
Throat soreness at day 3	11	44	63	28 (23-33)	6 (5-7)
Headache at day 3	2	24	44	45 (31-55)	5 (4-8)

RRR = relative risk reduction, CI = confidence interval, NNT = number needed to treat.

\*The RRR, NNT, and CI were calculated from data in article.